

**We claim:**

1. A photothermographic material that comprises a support having on an imaging side thereof, one or more thermally-developable imaging layers comprising a binder and in reactive association, a photosensitive silver halide, a non-photosensitive source of reducible silver ions, and a reducing composition for said non-photosensitive source reducible silver ions,  
and on the opposing backside of said support, a backside layer comprising a binder and an amine organic base as a backside stabilizer, the conjugate acid of said organic base having a pKa greater than 5 and being present in an amount of at least 0.01 mmol/m<sup>2</sup>.
2. The photothermographic material of claim 1 wherein said non-photosensitive source of reducible silver ions is a silver fatty acid carboxylate having 10 to 30 carbon atoms in the fatty acid or a mixture of said silver carboxylates.
3. The photothermographic material of claim 1 wherein said reducing composition comprises at least one hindered phenol.
4. The photothermographic material of claim 3 further comprising a high contrast co-developing agent.
5. The photothermographic material of claim 1 that is sensitive to radiation having a wavelength greater than 750 nm.
6. The photothermographic material of claim 1 wherein said backside layer is an antihalation layer further comprising an antihalation composition.

7. The photothermographic material of claim 6 comprising an antihalation composition that comprises an antihalation dye in a separate backside layer.

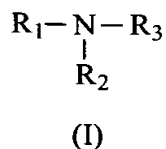
8. The photothermographic material of claim 1 wherein said backside stabilizer is present in said backside layer in an amount of from about 0.1 to about 10 mmol/m<sup>2</sup>.

9. The photothermographic material of claim 1 wherein said backside stabilizer is present in said backside layer in an amount of from about 0.05 to about 2 mmol/m<sup>2</sup>.

10. The photothermographic material of claim 1 wherein said backside stabilizer compound exhibits a vapor pressure of less than 8 torr at a temperature of 25°C.

11. The photothermographic material of claim 1 wherein said backside stabilizer provides a pH of at least 8 when dissolved at 0.005 mol/l in an aqueous solution containing 15% (v/v) of methanol.

12. The photothermographic material of claim 1 wherein said backside stabilizer is represented by the following Structure I:

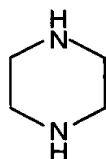


wherein R<sub>1</sub>, R<sub>2</sub>, and R<sub>3</sub> are independently chosen from hydrogen, —C(R<sub>4</sub>)=NR<sub>5</sub>, C(NR<sub>6</sub>R<sub>7</sub>)=NR<sub>5</sub>, substituted or unsubstituted alkyl groups having 1 to 18 carbon atoms, substituted or unsubstituted cycloalkyl groups, substituted or unsubstituted alkenyl groups having 2 to 18 carbon atoms, substituted or unsubstituted

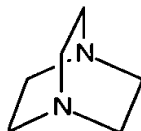
carbocyclic aryl groups having 6 or 10 carbon atoms in the aromatic rings, substituted or unsubstituted heterocyclic groups having 5 to 10 carbon, nitrogen, sulfur, and oxygen atoms, and  $R_4$ ,  $R_5$ ,  $R_6$ , and  $R_7$  are independently chosen from the same groups as  $R_1$ ,  $R_2$ , and  $R_3$ , or any one or more of  $R_1$ ,  $R_2$ ,  $R_3$ ,  $R_4$ ,  $R_5$ ,  $R_6$ , and  $R_7$  may be joined with each other and/or the central nitrogen atom to complete one or more substituted or unsubstituted heterocyclic ring(s).

13. The photothermographic material of claim 12 wherein  $R_1$ ,  $R_2$ , and  $R_3$  are independently alkyl,  $-\text{C}(R_4)=\text{NR}_5$ , or  $-\text{C}(\text{NR}_6\text{R}_7)=\text{NR}_5$  groups, or any one or more of  $R_1$ ,  $R_2$ ,  $R_3$ ,  $R_4$ ,  $R_5$ ,  $R_6$ , and  $R_7$  may be joined with each other and/or the central nitrogen atom to complete one or more substituted or unsubstituted heterocyclic ring(s).

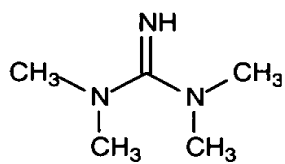
14. The photothermographic material of claim 1 wherein said backside stabilizers include one or more of the following compounds (AB-1) to (AB-24):



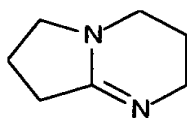
(AB-1)



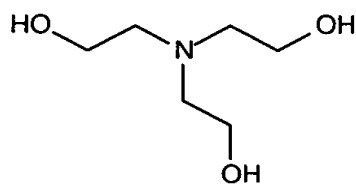
(AB-2)



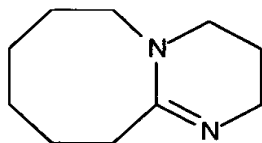
(AB-3)



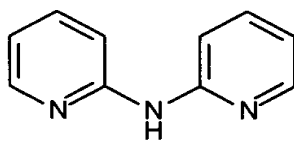
(AB-4)



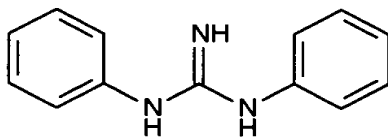
(AB-5)



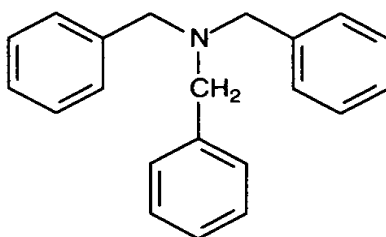
(AB-6)



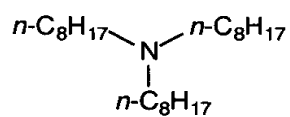
(AB-7)



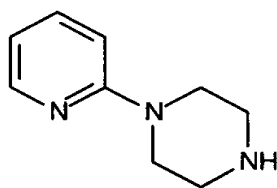
(AB-8)



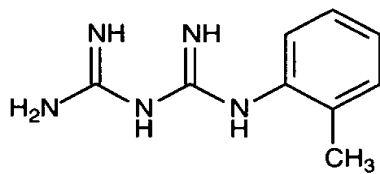
(AB-9)



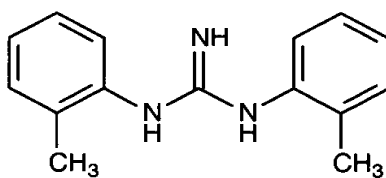
(AB-10)



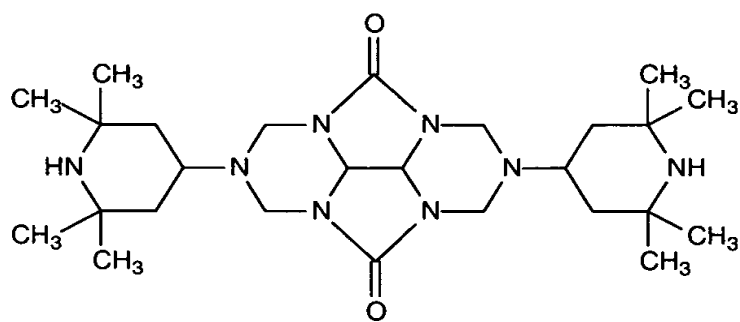
(AB-11)



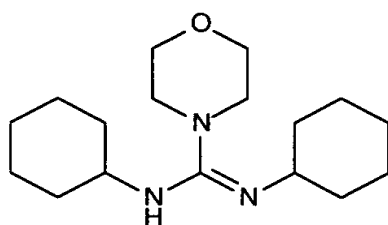
(AB-12)



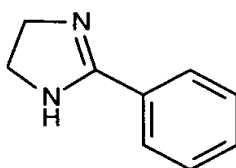
(AB-13)



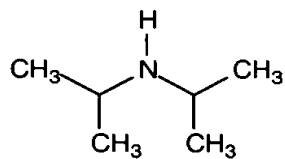
(AB-14)



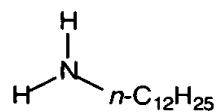
(AB-15)



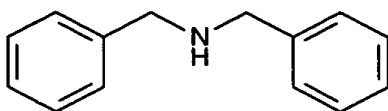
(AB-16)



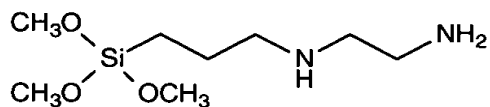
(AB-17)



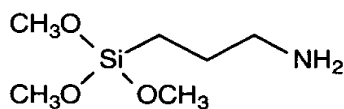
(AB-18)



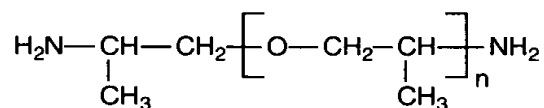
(AB-19)



(AB-20)

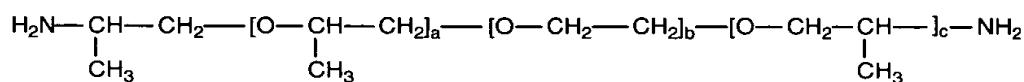


(AB-21)



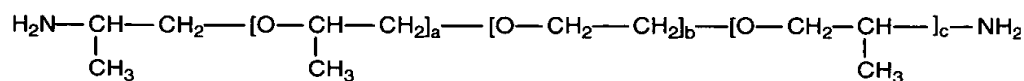
wherein n is between 5 and 6.

(AB-22)



wherein a + c is 3.6 and b is 9

(AB-23)



wherein a + c is 6 and b is 12.5

(AB-24).

15. The photothermographic material of claim 1 wherein said binder comprises a water-dispersible polymer latex or a hydrophobic binder.

16. The photothermographic material of claim 1 wherein said backside layer is the sole layer on said backside.

17. The photothermographic material of claim 1 wherein said backside layer comprises a cellulose acetate binder.

18. The photothermographic material of claim 1 wherein said backside also comprises a conductive or an antistatic material in one or more backside layers.

19. The photothermographic material of claim 18 wherein said conductive or an antistatic material is non-acicular zinc antimonate particles.

20. The photothermographic material of claim 1 wherein the conjugate acid of said organic amine has a pKa greater than 7.

21. A photothermographic material that comprises a transparent polymer support having on an imaging side thereof:

a) one or more thermally-developable imaging layers comprising a hydrophobic binder and in reactive association:

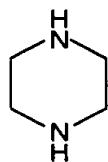
a photosensitive silver bromide, silver iodobromide, or a mixture thereof,

a non-photosensitive source of reducible silver ions that comprises one or more silver carboxylates at least one of which is silver behenate, and

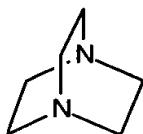
a reducing composition for said non-photosensitive source reducible silver ions, and

b) on the backside of said support, an antihalation layer comprising an antihalation composition, an antistatic material, and a backside stabilizer that is one or more of the following Compounds (AB-1) through

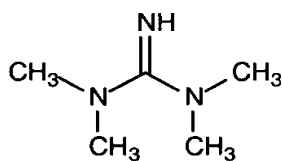
(AB-24), said backside stabilizer being present in an amount of from about 0.05 to about 2 mmol/m<sup>2</sup>,



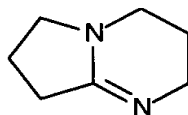
(AB-1)



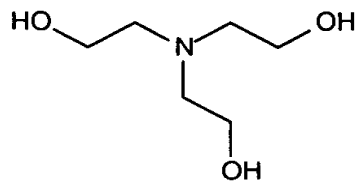
(AB-2)



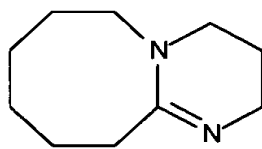
(AB-3)



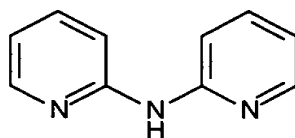
(AB-4)



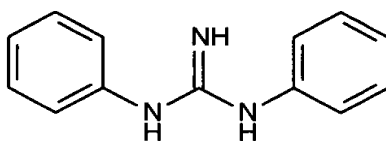
(AB-5)



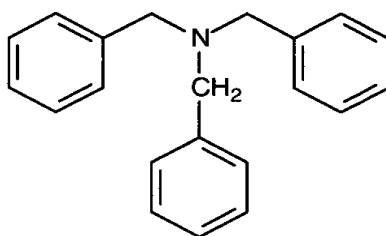
(AB-6)



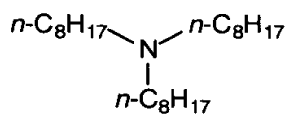
(AB-7)



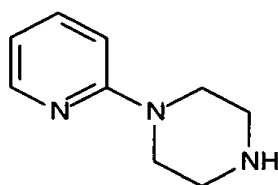
(AB-8)



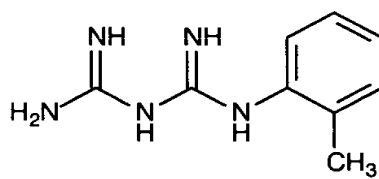
(AB-9)



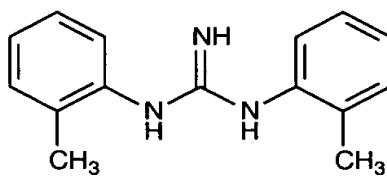
(AB-10)



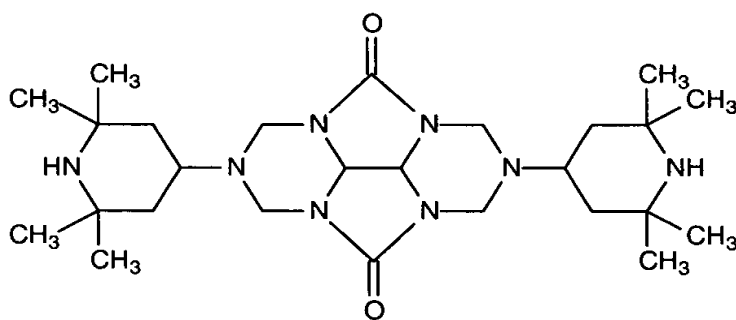
(AB-11)



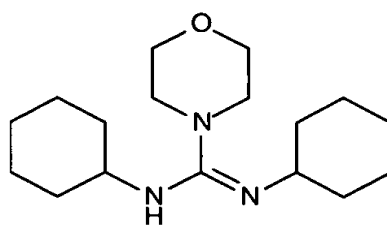
(AB-12)



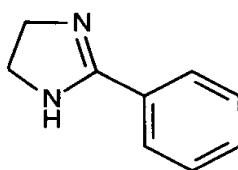
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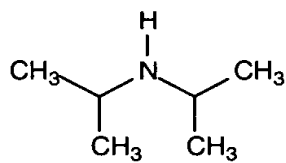
(AB-14)



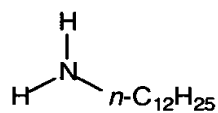
(AB-15)



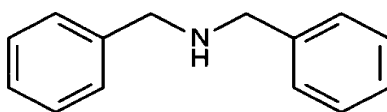
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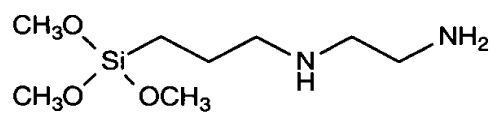
(AB-17)



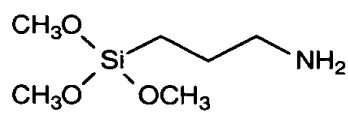
(AB-18)



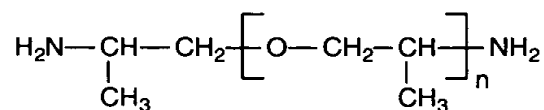
(AB-19)



(AB-20)

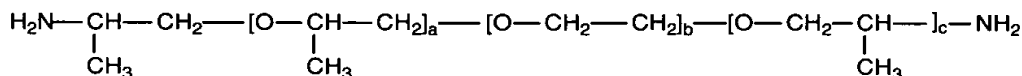


(AB-21)



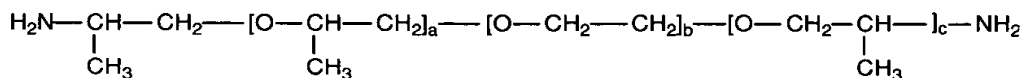
wherein n is between 5 and 6.

(AB-22)



wherein a + c is 3.6 and b is 9

(AB-23)



wherein a + c is 6 and b is 12.5

(AB-24).

22. The photothermographic material of claim 21 further comprising a protective overcoat disposed over said one or more thermally-developable imaging layers, or a conductive material in one or more layers on said backside, or both.

23. A method of forming a visible image comprising:

- A) imagewise exposing the photothermographic material of claim 1 to electromagnetic radiation to form a latent image,
- B) simultaneously or sequentially, heating said exposed photothermographic material to develop said latent image into a visible image.

24. The method of claim 23 wherein said photothermographic material comprises a transparent support, and said image-forming method further comprising:

C) positioning said exposed and heat-developed photothermographic material with a visible image therein, between a source of imaging radiation and an imageable material that is sensitive to said imaging radiation, and

D) thereafter exposing said imageable material to said imaging radiation through the visible image in said exposed and heat-developed photothermographic material to provide a visible image in said imageable material.

25. A method of forming a visible image comprising:

A) imagewise exposing the photothermographic material of claim 21 to electromagnetic radiation to form a latent image,

B) simultaneously or sequentially, heating said exposed photothermographic material to develop said latent image into a visible image.

26. A non-photosensitive composition comprising an antihalation composition, a binder, and an amine organic base whose conjugate acid has a pKa greater than 5 and that is present in an amount of from about 0.01 to about 10 weight % based on composition dry weight.

27. The composition of claim 26 wherein said antihalation composition comprises a heat bleachable antihalation composition.

28. The composition of claim 26 wherein the conjugate acid of said organic amine has a pKa greater than 7.

29. The composition of claim 26 further comprising a conductive or an antistatic material in one or more backside layers.

30. The photothermographic material of claim 26 wherein said conductive or a antistatic material is non-acicular zinc antimonate particles.

31. A photographic film pack or stack comprising a plurality of photothermographic materials,

each photothermographic material comprising a support having, on a frontside imaging side thereof, one or more thermally-developable imaging layers comprising a binder and in reactive association, a photosensitive silver halide, a non-photosensitive source of reducible silver ions, and a reducing composition for said non-photosensitive source reducible silver ions,

and on the opposing backside of said support, a backside layer comprising a binder and an amine organic base as a backside stabilizer, the conjugate acid of said organic base having a pKa greater than 5 and being present in an amount of at least 0.01 mmol/m<sup>2</sup>.